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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/582,980	HU ET AL.	
	Examiner	Art Unit	
	NOURALI MANSOURY	2475	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 18-33, are objected to under 37 C.F.R. 1.75 because of the following informalities:

In claim 18 lines 3, 5, second occurrence, "call routing" and seems to refer back to "call routing" recited at line 1 in claim 18, first occurrence. If it is true, it is suggested to change “call routing” to ---- the call routing ----.

In claim 18 line 19, second occurrence, "registration" and seems to refer back to "registration" recited at line 17 in claim 18, first occurrence. If it is true, it is suggested to change “registration” to ---- the registration ----.

In claim 21 line 2, second occurrence, "a route service device" and seems to refer back to "a route service device" recited at line 13 in claim 18, first occurrence. If it is true, it is suggested to change “a route service device” to ---- the route service device ----.

In claim 21 line 2, second occurrence, "soft switch control device" and seems to refer back to "soft switch control device" recited at line 2 in claim 18, first occurrence. If it is true, it is suggested to change “a soft switch control device” to ---- the soft switch control device ----. See also claim 23 line 9 and line 10.

In claim 24 line 10, second occurrence, "addition" and seems to refer back to "addition" recited at line 2 in claim 24, first occurrence. If it is true, it is suggested to change “addition” to ---- the addition ----.

In claim 24 line 13, second occurrence, "move-out" and seems to refer back to "move-out" recited at line 2 in claim 24, first occurrence. If it is true, it is suggested to change “move-out” to ---- the move-out ----.

In claim 24 line 16, second occurrence, "account-cancel” and seems to refer back to "account-cancel" recited at line 2 in claim 24, first occurrence. If it is true, it is suggested to change “account-cancel” to ---- the account-cancel ----.

In claim 25 line 10, second occurrence, "a father node" and seems to refer back to "a father node" recited at line 6 in claim 25, first occurrence. If it is true, it is suggested to change “a father node” to ---- the father node ----.

In claim 26 line 4, second occurrence, "a route record" and seems to refer back to "a route record" recited at line 14 in claim 25, first occurrence. If it is true, it is suggested to change “a route record” to ---- the route record ----.

In claim 26 lines 16-17, second occurrence, "an inquiring result" and seems to refer back to "an inquiring result" recited at line 16 in claim 25, first occurrence. If it is true, it is suggested to change “an inquiring result” to ---- the inquiring result ----.

In claim 27 lines 13, 18, 21, second occurrence, "a user" and seems to refer back to "a user" recited at line 9 in claim 27, first occurrence. If it is true, it is suggested to change “a user” to ---- the user ----.

In claim 30 lines 3-5, second occurrence, "other nodes" and seems to refer back to "other nodes" recited at line 23 in claim 24, first occurrence. If it is true, it is suggested to change “other nodes” to ---- the other nodes ----.

In claim 30 line 9, second occurrence, "an inquiry judgment unit" and seems to refer back to "an inquiry judgment unit" recited at line 8 in claim 30, first occurrence. If it is true, it is suggested to change “an inquiry judgment unit” to ---- the inquiry judgment unit ----.

Claims 19-20, 22, 28-29, 31-33 are objected to as being dependent upon objected base claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 18-33, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 recites the limitation "the soft switch control devices" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim 21 recites the limitation "the user node" in line 1. There is insufficient antecedent basis for this limitation in the claim. See also in claim 23 line 8 and line 10, in claim 24 lines 10, 11.

Claim 22 recites the limitation "the local node" in line 2. There is insufficient antecedent basis for this limitation in the claim. See claim 24 line 13.

Claim 23 recites the limitation "the highest layer" in lines 6. There is insufficient antecedent basis for this limitation in the claim. See also in claim 24 line 13 and line 14, in claim 32 line 5, claim 33 line 6.

Claim 24 recites the limitation "the soft switch control devices" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim 25 recites the limitation "the lowest layer" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim 27 recites the limitation "the route information database" in lines 13 and 21. There is insufficient antecedent basis for this limitation in the claim. See also in claim 24 line 13 and line 14.

Claims 19-20, 26, 28-31, are rejected to as being dependent upon rejected base claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 18-33, are rejected under 35 U.S.C. 103(a) as being unpatentable over Pershan (US 6865266) in views of Elliott et al (US 20040022237).

Regarding claim 18, Pershan disclose a method for implementing call routing, to be used in network using switch control devices as core control device (Fig. 1 shows soft switch 130), comprising implementing call routing by route service devices, wherein

the route service devices and the soft switch devices are networked in a layer way (Fig. 1 element 104); (a) when a route of a used changing, a soft switching control device that the user moves to or moves out of reporting a change route information (Soft switches 130, 152 provide calling and called information to the servers, then the servers determine routing and move the call to its ultimate destination, e.g., they determine the routing instructions for called numbers see coin: 10 lines 16-19) related to the user to a route service device at father node (server 132 of fig. 1) of the one of the soft switch control device (Fig. 1 shows soft switch 130), the changed route information includes user characteristics information, report node information and type of route operation type ([col 9 lines 66-67, col 10 lines 1-6] e.g., Soft switches 130 include routing information and other control information associated with providing (VOIP) service, e.g., telephone service, to VOIP service customers, e.g., customers represented by VOIP telephone devices 106, 154. Depending on the implementation, the control and/or routing information and function may be implemented in the soft switch using one or more devices such as a trunk call agent 136 and a line call agent 138, col 11 lines 15-19), (d) the route service device that received broadcasted route information registering and broadcasting the received broadcasted route information according to the same method as the route service device that received the reported changed route information (col 16 lines 21-33 e.g., step 338, soft switch 152 receives the call and uses one of a plurality of techniques to identify routing instructions, e.g., an IP address. Then in step 340 the soft switch 152 transmits a query to server 156, i.e., the server responsible for servicing calls to user device 154. Next, in step 342 the server 156

receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to), (e) when calling across domains, the soft switch control device to which the calling belongs to initiates an inquiry to the route service device at father node of the soft switch control device to which the calling belongs (col 19 lines 59-62 e.g., In the FIG. 6 example a calling party 106 whose number was ported from the PSTN to the VOIP domain originates a call from the VOIP network 104. The exemplary call is directed to a called party 108 located in the PSTN 102. As discussed above, from a billing perspective, it may be desirable to have the call billed as if it originated from the Centrex S SP 120 used to service the originating (calling party) telephone number before it was ported to the VOIP network 104. In this manner, changes in customer billing procedures as perceived by the customer, who may be important for business clients, can be minimized despite a telephone number being ported to the VOIP network see coin: 19 lines 37-49) and also (Gateway switch 122 serves as the link between the VOIP soft switch 130 and the CTX SSP 120 through which the called party in the PSTN 102 can be reached by the calling party in the IP network 104). (f) the route service device upon receiving inquiry request of the inquiry looking up a route record of a user to be looked up from the route information database, If an inquiry result of the route of the user or an inquiry result indicates that the user does not exist is obtained (col 19 lines 63-67, col 20 lines 1-4, e.g., the FIG. 6 example

begins in step 602 with the calling party dialing the called party's telephone number, e.g., 301-774-5200 into the IP telephone device 106. In step 604, the IP call which is received by the media/proxy server 132 and is routed to soft switch 130 and In step 606 the call is received at soft switch 130. Next, in step 608, the soft switch 130 sends a query to media/proxy server 132 seeking routing instructions for called number 301-774-5200, col 3 lines 50-57, e.g., The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (Lens). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported), performing step (h), otherwise, performing step (g); (g) the route service device that received the request of the inquiry continuing an inquiry to a node in the route record, if there is no route record, continuing an inquiry its father node, and returning to step (f) (col 16 lines 24-33, e.g., the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to); and (h) the route service device that received the request of the inquiry returning the inquiry result to the node that initiated the inquiry, any local node that receives the inquiry result continuing to return the inquiry result, until

returning to the soft switch control device which first made the inquiry (col 20 lines 10-25, e.g., In step 612, the media/proxy server sends the routing information back to the soft switch 130 informing it to route the call to a local Signal Transfer Point (STP) 150 for SS7 routing. The soft switch 130 receives the instructions in step 614 and, in step 616, contacts its local media/proxy server 132 which has SS-7 connectivity. Next in step 618, the media/proxy server 132 uses SS7 messaging to contact the local PSTN STP 150. In step 620, the STP 150 verifies that the requested call can be completed, e.g., the STP 150 checks to see if the called line is busy or if a no answer condition exists. If either of these conditions is detected by the STP 150, the STP 150 will inform the media/proxy server 132, and the calling party would hear a busy signal or a no answer condition indication under the direction of server 132 or softswitch 130, col 10 lines 20-29). Pershan does not disclose: a next generation network, (b) the route service device that received report of the change route information looking up a record of a user to be registered from a route information database, and registering a route record of the user to the route information database according to the reported change route information and content of the record of the user; (c) when a route information of the user reflects a change between the route service device that finished registration and its father node the route service device that finished registration broadcasting the route information reflecting the change to a route service device at father node of the route service device that finished registration. However, Elliott et al for example from similar field of endeavor discloses a next generation network [0684], (b) the route service device that received report of the change route information looking up a record of a user to be registered

from a route information database, and registering a route record of the user to the route information database according to the reported change route information and content of the record of the user ([0881] e.g., Soft switch 418 communicates 538 with SS7 GW proxy 424 accepting signaling messages from SS7 gateways 208. Soft switch 418 communicates 540 with SS7 GW proxy 424 sending signaling messages to SS7 gateway 208. In sending signaling messages, soft switch 204 uses 542 command and control registration of the soft switch 204 with SS7 gateway 208); (c) when a route information of the user reflects a change between the route service device that finished the registration and its father node, the route service device that finished registration ([0882] e.g., Soft switch accepts IPDC messages from access servers from interaction with the servers. This communication extends 544 the soft switch command and control which registers soft switch 204 with SS7 gateways 232a. This registration uses 546 interaction between the soft switch and SS7 gateway 424. SS7 gateway 424 communicates 548 with the soft switch 418) broadcasting the route information reflecting the change to a route service device at father node of the route service device that finished registration ([0882] e.g., Diagram 542 illustrates intercommunications between access server 232a, soft switch 204 and SS7 gateway 208. Access server 232a communicates 544 with soft switch 418. Soft switch accepts IPDC messages from access servers from interaction with the servers. This communication extends 544 the soft switch command and control which registers soft switch 204 with SS7 gateways 232a. This registration uses 546 interaction between the soft switch and SS7 gateway 424. SS7 gateway 424 communicates 548 with the soft switch 418). Thus it would have

been obvious to one of ordinary skill in the art at the time of invention to implement the method of Elliott et al in the system of Pershan .The method of Pershan can be implemented on any type of method, a next generation network, (b) the route service device that received report of the change route information looking up a record of a user to be registered from a route information database, and registering a route record of the user to the route information database according to the reported change route information and content of the record of the user; (c) when a route information of the user reflects a change between the route service device that finished registration and its father node the route service device that finished registration broadcasting the route information reflecting the change to a route service device at father node of the route service device that finished registration which is taught by Elliott with a motivation to in order to provide efficient transmission for voice and data traffic over a data network.

Regarding claim 19, note that Elliott teach the method, wherein when performing registration in step (b), if the operation type of the reported changed route information corresponds to user moving in, when there is no route record of the user in the route information database ([01550] e.g., Table 145 below provides the Startup messages, the parameter tags, the parameter descriptions (associated with these messages) and the R/O status 151TABLE 145 Startup (registration and de-registration) Parameter Message Tag Description R/O NSUP - Notify Access 0x000000C0 Message Code R Server coming up 0x000000C 1 Transaction ID R 0x00000001 Protocol version R implemented), establish a new record, when the record information of the user is

different from the reported changed route information, update the record in conformity with preset condition ([1151] lines 3- 6, Data distributor 222 distributes customer database tables to SCP 214. Data distributor 222 also distributes route plan updates of configurations to SCP 214. Customer tables are updated through a database replication server), otherwise, not perform the operation; if the operation type of the reported changed route information corresponds to user moving out, delete or update the route record of the user which has the same node information ([1162] The egress soft switch can similarly generate and forward call event blocks to the same or another RNECP for inclusion in the call event record. In one embodiment, all the call event blocks for the call record for a given call are sent to one RNECP which maintains a copy throughout the call (i.e. even if interim copies are transmitted for storage). In one embodiment, the call event record is removed from the RNECP upon completion of the call to free up space for additional calls).

Regarding claim 20, note that Elliott et al teach The method, wherein the operation types have two kinds, which are addition and deletion; or have three kinds, which are addition, move- out and account-cancel ([0035] e.g., Verification can result in the need to enforce a restriction, such as a class of service (COS) restriction (COSR). In this example, the soft switch site can verify that the account code is valid, but that it requires that an intrastate COSR should be enforced. This means that the call is required to be an intrastate call to be valid. The class of service restriction logic can be performed within the soft switch site using, for example, pre-loaded local access and transport areas (LATAs) and state tables. The soft switch would then allow the call to

proceed if the class of service requested matches the authorized class of service. For example, if the LATA and state tables show that the LATA of the originating party and the LATA of the terminating party are in the same state, then the call can be allowed to proceed), and the user characteristics information includes information of specific domain ([0461] e.g., signaling messages for a call which either originates from an on-network calling party 122, or terminates to on-network called party 124, can be carried in-band over data network 112 or over a separate data network to soft switch sites 104, 106, rather than through signaling network 114).

Regarding claim 21, Pershan discloses wherein the user node in the step (a) is a type of soft switch control device, or a type of route service device(fig.1 shows user node 132 for user 106).

Regarding claim 22, Elliott et al teach The method, wherein in the step (c), when a route information of the user reflects a change between the local node and a designated brother node, the route service device that finished the registration also broadcasts the route information reflecting the change to the designated brother node ([0882] e.g., Diagram 542 illustrates intercommunications between access server 232a, soft switch 204 and SS7 gateway 208. Access server 232a communicates 544 with soft switch 418. Soft switch accepts IPDC messages from access servers from interaction with the servers. This communication extends 544 the soft switch command and control which registers soft switch 204 with SS7 gateways 232a. This registration uses 546

interaction between the soft switch and SS7 gateway 424. SS7 gateway 424 communicates 548 with the soft switch 418).

Regarding claim 23, Pershan disclose the method, wherein the operation types have two kinds, which are addition and deletion, in the step (f), the route service device performing the inquiry makes judgment according to a looking up result in the route information database (col 11 lines 1- 5, e.g., the ISCP 128 and SCP included therein, can obtain VOIP telephone service subscriber information and use that information in making PSTN call routing/completion decisions, col 3 lines 50-57, e.g., The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported) by following logic: if the looking up result is that there is no record of user to be inquired, for a local node which is at the highest layer, obtaining the looking up result that there is no user, for a local node which is not at the highest layer, continuing an inquiry (col 16 lines 24-33, e.g., the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user

device 154 to which the called party indicated calls were to be forwarded to); and also Elliott et al discloses if there is record of user to be inquired in the looking up result, when the user node in the route record is a soft switch control device, obtaining the inquiring result of the route of the user; when the user node in the route record is not a soft switch control device, continuing an inquiry ([0494] e.g., In step 2208, the lookup returns subscription information. For example, the customer profile can require entry of an account code. In this example, the customer profile lookup can return an indication that the customer, i.e. calling party 102, has subscribed to an account code verification feature. A class of service restriction can also be enforced, but this will not be known until account code verification identifies an associated account code).

Regarding claim 24, Pershan disclose the method, wherein the operation types have three kinds: addition, move-out and account-cancel, in the step (f), the route service device performing inquiry makes judgment according to the looking up result in the route information database (col 3 lines 50-57, e.g., The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported) by the following logic: if the looking up result is that there is no record of user to be inquired, for a local node which is at the highest layer, obtaining a looking up result indicating that there is no user, for a local node which is not at the

highest layer, continuing an inquiry (see claim 23); if the looking up result is that there is record of user to be inquired, identifying the operation type in the record: when the operation type is addition, if the user node in the record is a type of soft switch control device (fig. 1 shows user node 132 for user 106), obtaining the looking up result of the route of the user; If the user node is a type of route service device, continuing an inquiry (col 16 lines 24-33, e.g., the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to). Elliott et al. discloses when the operation type is move-out, if the local node is at the highest layer, obtaining a looking up result indicating that there is no user; if the local node is not at the highest layer, continuing an inquiry; and Also note that Elliott et al teach when the operation type is account-cancel, obtaining a looking up result indicating that there is no user ([0035] e.g., Verification can result in the need to enforce a restriction, such as a class of service (COS) restriction (COSR). In this example, the soft switch site can verify that the account code is valid, but that it requires that an intrastate COSR should be enforced. This means that the call is required to be an intrastate call to be valid. The class of service restriction logic can be performed within the soft switch site using, for example, pre-loaded local access and transport areas (LATAs) and state tables. The soft switch would then allow the call to

proceed if the class of service requested matches the authorized class of service. For example, if the LATA and state tables show that the LATA of the originating party and the LATA of the terminating party are in the same state, then the call can be allowed to proceed).

Regarding claim 25, Pershan disclose a system for implementing call routing to be used in network using switch control device as core control device (Fig. 1 shows soft switch 130), comprising a plurality of soft switch control devices with users (fig. 1 shows plurality of soft switches 152,130), wherein, the system further comprises a plurality of route service devices (fig. 1 shows plurality of service route 156 and 132), each of the route service devices and each of the soft switch control device form a node of the system, and the nodes are networked in a layered form, each sub-node has at least a father node, and each father node has at least a sub-node, the soft switch control device is a node at the lowest layer, and the route service devices have a sub-node (see fig. 1 shows all the subject matter to this point), wherein: said soft switch devices are configured for reporting changed route information (Soft switches 130, 152 provide calling and called information to the servers, then the servers determine routing and move the call to its ultimate destination, e.g., they determine the routing instructions for called numbers see coin: 10 lines 16-19) to the route service device at a father node when a route of its user is changed, and initiating a route inquiry to the route service device at the father node when its user calls across domains (In the FIG. 6 example a calling party 106 whose number was ported from the PSTN to the VOIP domain originates a call from the VOIP network 104. The exemplary call is directed to a called

party 108 located in the PSTN 102. As discussed above, from a billing perspective, it may be desirable to have the call billed as if it originated from the Centrex SSP 120 used to service the originating (calling party) telephone number before it was ported to the VOIP network 104. In this manner, changes in customer billing procedures as perceived by the customer, which may be important for business clients, can be minimized despite a telephone number being ported to the VOIP network see coin: 19 lines 37-49) broadcasting the changed route information to related node, performing inquiry after receiving the inquiry request, and returning inquiring result to the node initiating the inquiry (col 20 lines 10-25, e.g., In step 612, the media/proxy server sends the routing information back to the soft switch 130 informing it to route the call to a local Signal Transfer Point (STP) 150 for SS7 routing. The soft switch 130 receives the instructions in step 614 and, in step 616, contacts its local media/proxy server 132 which has SS-7 connectivity. Next, in step 618, the media/proxy server 132 uses SS7 messaging to contact the local PSTN STP 150. In step 620, the STP 150 verifies that the requested call can be completed, e.g., the STP 150 checks to see if the called line is busy or if a no answer condition exists. If either of these conditions is detected by the STP 150, the STP 150 will inform the media/proxy server 132, and the calling party would hear a busy signal or a no answer condition indication under the direction of server 132 or soft switch 130). Pershan does not disclose a next generation network, the route service device is for registering the reported information, performing adding, deleting and updating of route record in a route information database. However, Elliott et al for example from similar field of endeavor discloses a next generation network, the

route service device is for registering the reported information, performing adding, deleting and updating of route record in a route information database ([1162] e.g., The egress soft switch can similarly generate and forward call event blocks to the same or another RNECP for inclusion in the call event record. In one embodiment, all the call event blocks for the call record for a given call are sent to one RNECP which maintains a copy throughout the call (i.e. even if interim copies are transmitted for storage). In one embodiment, the call event record is removed from the RNECP upon completion of the call to free up space for additional calls). Thus it would have been obvious to one of ordinary skill in the art at the time of invention to implement the method of Elliott et al in the system of Pershan. The method of Pershan can be implemented on any type of method the route service device is for registering the reported information, performing adding, deleting and updating of route record in a route information database which is taught by Elliott with a motivation to in order to provide efficient transmission for voice and data traffic over a data network.

Regarding claim 26 Pershan disclose the system, wherein the route service device comprises a route information database module, a route registration module, a route broadcast module and a route inquiry module (col 9 lines 66-67, col 10 lines 1-6, e.g., Soft switches 130 include routing information and other control information associated with providing (VOIP) service, e.g., telephone service, to VOIP service customers, e.g., customers represented by VOIP telephone devices 106, 154. Depending on the implementation, the control and/or routing information and function may be implemented in the soft switch using one or more devices such as a trunk call

agent 136 and a line call agent 138 that inherent database ,registration ,route broadcast and query module), wherein the route information database module is configured for storing a route record of a user, inputting the route record of the user, and providing an interface for accessing the route record of the user; wherein the route registration module is for receiving a route information reported or forwarded by the route broadcast module, looking up a record of a user to be registered from the route information database, and registering the route record of the user to the route information database according to the reported route information and content of the user record; wherein the route broadcast module is configured for receiving a broadcasted route information(col 16 lines 21-33, e.g., step 338, soft switch 152 receives the call and uses one of a plurality of techniques to identify routing instructions, e.g., an IP address. Then in step 340 the soft switch 152 transmits a query to server 156, i.e., the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to); and wherein the route inquiry module is for receiving or sending an inquiry request, looking up a record of a user to be inquired from the route information database, returning an inquiring result to a node requesting the inquiry upon finding a route of the user (col 19 lines 63-67, col 20 lines 1-4, e.g., the FIG. 6 example begins in step 602 with the calling party dialing the called party's telephone number, e.g., 301-

774-5200 into the IP telephone device 106. In step 604, the IP call which is received by the media/proxy server 132 and is routed to soft switch 130 and In step 606 the call is received at soft switch 130. Next, in step 608, the soft switch 130 sends a query to media/proxy server 132 seeking routing instructions for called number 301-774-5200), upon determining that there is no user or upon receiving an inquiring result provided by other nodes, otherwise, continuing an inquiry to the node in the route record, and if there is no route record, then continuing an inquiry to its father node (col 16 lines 24-33, e.g., the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to). Also note that Elliott teach and when a route information of a user reflects a change between a local node and its father node, or between the local node and both the father node and a designated brother node, broadcasting the route information of the user reflecting the change to its father node or both to the father node and the designated brother node. Elliott et al from the same or similar endeavor teach ([0882] e.g., Diagram 542 illustrates intercommunications between access server 232a, soft switch 204 and SS7 gateway 208. Access server 232a communicates 544 with soft switch 418. Soft switch accepts IPDC messages from access servers from interaction with the servers. This communication extends 544 the soft switch command and control

which registers soft switch 204 with SS7 gateways 232a. This registration uses 546 interaction between the soft switch and SS7 gateway 424. SS7 gateway 424 communicates 548 with the soft switch 418).

Regarding claim 27, Pershan disclose a route service device to be used in generation network using soft switch control device, wherein the route service device and the soft switch control devices are networked in a layer way (see claim 18), comprising: a route information database module, a route registration module, a route broadcast module, and a route inquiry module (col 9 lines 66-67, col 10 lines 1-6, e.g., Soft switches 130 include routing information and other control information associated with providing (VOIP) service, e.g., telephone service, to VOIP service customers, e.g., customers represented by VOIP telephone devices 106, 154. Depending on the implementation, the control and/or routing information and function may be implemented in the soft switch using one or more devices such as a trunk call agent 136 and a line call agent 138 that inherent database ,registration ,route broadcast and query module), wherein the route information database module is configured for storing a route record of a user, inputting the route record of the user, and providing an interface for accessing the route record of the user; wherein the route registration module is configured for receiving a route information, reported by the soft switch control devices or forwarded by the route broadcast module, looking up a record of a user to be registered from the route information database, and registering the route record of the user to the route information database according to the reported route information and content of the

user record; wherein the route broadcast module is for receiving a broadcasted route information and sending the broadcasted route information to the route registration module (col 16 lines 21-33, e.g., step 338, soft switch 152 receives the call and uses one of a plurality of techniques to identify routing instructions, e.g., an IP address. Then in step 340 the soft switch 152 transmits a query to server 156, i.e., the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to); and wherein the route inquiry module is configured for receiving or sending an inquiry request, looking up the a record of a user to be inquired from the route information database, returning an inquiring result to a node requesting the inquiry upon finding a route of the user (col 19 lines 63- 67, col 20 lines 1-4, e.g., the FIG. 6 example begins in step 602 with the calling party dialing the called party's telephone number, e.g., 301-774-5200 into the IP telephone device 106. In step 604, the IP call which is received by the media/proxy server 132 and is routed to soft switch 130 and In step 606 the call is received at soft switch 130. Next, in step 608, the soft switch 130 sends a query to media/proxy server 132 seeking routing instructions for called number 301-774-5200), upon determining that there is no user or upon receiving an inquiring result provided by other nodes, otherwise, continuing an inquiry to the node in the route record, and if there is no route record, then continuing an

inquiry to its father node (col 16 lines 24-33the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to). Pershan dose not disclose a next generation network, a route information of a user reflects a change between a local node and its father node, broadcasting the route information of the user reflecting the change to its father node. However, Elliott et al from similar field of endeavor discloses a next generation network, a route information of a user reflects a change between a local node and its father node, broadcasting the route information of the user reflecting the change to its father node ([00684], [0882] e.g., Diagram 542 illustrates intercommunications between access server 232a, soft switch 204 and SS7 gateway 208. Access server 232a communicates 544 with soft switch 418. Soft switch accepts IPDC messages from access servers from interaction with the servers. This communication extends 544 the soft switch command and control which registers soft switch 204 with SS7 gateways 232a. This registration uses 546 interaction between the soft switch and SS7 gateway 424. SS7 gateway 424 communicates 548 with the soft switch 418). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Elliott et al in the system of Pershan .The method of Pershan can be implemented on any type of method a next generation network, and when a

route information of a user reflects a change between a local node and its father node, broadcasting the route information of the user reflecting the change to its father node which is taught by Elliott with a motivation to in order to provide efficient transmission for voice and data traffic over a data network.

Regarding claim 28, Pershan disclose said route registration module comprises: a report information receiving unit, for receiving route information reported by a soft switch control device (Fig. 1 shows soft switch 130), or forwarded by the route broadcast module; a registration access unit, for looking up the route record of the user in the route information database according to the information of the user to be registered in the reported information (col lines 66-67, col 10 lines 1-6, e.g., Soft switches 130 include routing information and other control information associated with providing (VOIP) service, e.g., telephone service, to VOIP service customers, e.g., customers represented by VOIP telephone devices 106, 154. Depending on the implementation, the control and/or routing information and function may be implemented in the soft switch using one or more devices such as a trunk call agent 136 and a line call agent 138 that inherent database ,registration ,route broadcast and query module) and; a register judgment unit(col 11 lines 1-5, e.g., the ISCP 128 and SCP included therein, can obtain VOIP telephone service subscriber information and use that information in making PSTN call routing/completion decisions, col 3 lines 50-57, e.g., The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally

corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported). Also note that Elliott teach for establishing a new record if there is no route record of the user when the operation type corresponds to the user moving in, updating the record in the database in conformity with preset condition if the route record information of the user is different from the reported information, otherwise, not performing operation; deleting or updating the route record of the user if the operation type of the report information corresponds to user moving out and the user node in the user record is same to the node in the reported information ([1162] e.g., The egress soft switch can similarly generate and forward call event blocks to the same or another RNECP for inclusion in the call event record. In one embodiment, all the call event blocks for the call record for a given call are sent to one RNECP which maintains a copy throughout the call (i.e. even if interim copies are transmitted for storage). In one embodiment, the call event record is removed from the RNECP upon completion of the call to free up space for additional calls).

Regarding claim 29, Pershan disclose the route service device, wherein the route broadcast module comprises: a broadcast information receiving unit, for receiving the route information broadcasted by other nodes, forwarding the information to the route registration module(col 9 lines 66-67, col 10 lines 1-6, e.g., Soft switches 130 include routing information and other control information associated with providing (VOIP) service, e.g., telephone service, to VOIP service customers, e.g., customers

represented by VOIP telephone devices 106, 154. Depending on the implementation, the control and/or routing information and function may be implemented in the soft switch using one or more devices such as a trunk call agent 136 and a line call agent 138 that inherent database ,registration ,route broadcast and query module) a broadcast judgment unit, for judging whether the a route information of the user to be registered reflects a change between its node and its father node, if yes, handing over the route information of the user to the route information broadcast unit (col 11 lines 1-5, e.g., the ISCP 128 and SCP included therein, can obtain VOIP telephone service subscriber information and use that information in making PSTN call routing/completion decisions, col 3 lines 50-57, e.g., The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported); and a route information broadcast unit, for broadcasting the changed route information to the father node (col 19 lines 37-49, e.g., In the FIG. 6 example a calling party 106 whose number was ported from the PSTN to the VOIP domain originates a call from the VOIP network 104. The exemplary call is directed to a called party 108 located in the PSTN 102. As discussed above, from a billing perspective, it may be desirable to have the call billed as if it originated from the Centrex SSP 120 used to service the originating (calling party) telephone number before it was ported to the VOIP network 104. In this manner, changes in customer billing procedures as perceived by the customer, which

may be important for business clients, can be minimized despite a telephone number being ported to the VOIP network).

Regarding claim 30 note that Pershan et al disclose the route service device, wherein the route inquiry module comprises: an inquiry interface unit (IP gateway switch 122 of fig. 1), for receiving an inquiring request from other nodes or sending an inquiry request to other nodes, and returning the inquiring result of the route inquiry module to the node requesting the inquiry or forwarding the inquiring result received from other nodes (col lines 2-10, e.g., The IP gateway switch 122 couples the PSTN 102 to the VOIP network 104 and servers to interface between the PSTN and IP networks by performing any necessary signaling, packetization, and protocol conversions.IP gateway switch functionality can be incorporated into switches which also provide complete PSTN functionality. Such multiprotocol telephone switches may include links to both the PSTN 102 and VOIP network 104) an inquiry access unit, for looking up in the route information database according to the characteristic information of the user to be looked up in the inquiry request, and reporting the inquiring result to an inquiry judgment unit; and an inquiry judgment unit, (col 11 lines 1-5, e.g., the ISCP 128 and SCP included therein, can obtain VOIP telephone service subscriber information and use that information in making PSTN call routing/completion decisions, col 3 lines 50-57, e.g., The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies

the SSP to which the called telephone number is ported) for judging whether the inquiring result is that the user route is obtained or the user does not exist according to a looking up result, or it is necessary to send the inquiry request to related node, and to indicate the inquiry interface unit to perform corresponding operation (col 19 lines 63-67, col 20 lines 1-4, e.g., the FIG. 6 example begins in step 602 with the calling party dialing the called party's telephone number, e.g., 301- 774-5200 into the IP telephone device 106. In step 604, the IP call which is received by the media/proxy server 132 and is routed to soft switch 130 and In step 606 the call is received at soft switch 130. Next, in step 608, the soft switch 130 sends a query to media/proxy server 132 seeking routing instructions for called number 301-774-5200).

Regarding claim 31 note that Elliott et al teach the route service device of, wherein when the route information of the user reflects a change between local node and a designated brother node, the route broadcast module broadcasts the route information reflecting the change to the designated brother node ([0882] e.g., Diagram 542 illustrates intercommunications between access server 232a, soft switch 204 and SS7 gateway 208. Access server 232a communicates 544 with soft switch 418. Soft switch accepts IPDC messages from access servers from interaction with the servers. This communication extends 544 the soft switch command and control which registers soft switch 204 with SS7 gateways 232a. This registration uses 546 interaction between the soft switch and SS7 gateway 424. SS7 gateway 424 communicates 548 with the soft switch 418).

Regarding claim 32, Pershan discloses inquiry judgment unit makes judgment according to the looking up result in the route information database by the following logic: if the looking up result is that there is no record of the user to be looked up, for a node that is at the highest layer, determining that the user does not exist, for a node that is not at the highest layer (col 11 lines 1-5, e.g., the ISCP 128 and SCP included therein, can obtain VOIP telephone service subscriber information and use that information in making PSTN call routing/completion decisions, col 3 line 50-57, e.g., The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported), continuing an inquiry; and if the looking up result is that there is record of user to be looked up, when the user node in the route record is a soft switch control device, obtaining the user route, when the user node is not a soft switch device, continuing an inquiry to the user node in the record (col 16 lines 24-33, e.g., the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to). Also, Elliott et al teach the route service device,

wherein the operation types of the route record have two kinds: addition and deletion ([0035] e.g., Verification can result in the need to enforce a restriction, such as a class of service (COS) restriction (COSR). In this example, the soft switch site can verify that the account code is valid, but that it requires that an intrastate COSR should be enforced. This means that the call is required to be an intrastate call to be valid. The class of service restriction logic can be performed within the soft switch site using, for example, pre-loaded local access and transport areas (LATAs) and state tables. The soft switch would then allow the call to proceed if the class of service requested matches the authorized class of service. For example, if the LATA and state tables show that the LATA of the originating party and the LATA of the terminating party are in the same state, then the call can be allowed to proceed).

Regarding claim 33, Pershan disclose the inquiry judgment unit makes judgment according to the looking up result in the route information database (col 11 lines 1-5, e.g., the ISCP 128 and SCP included therein, can obtain VOIP telephone service subscriber information and use that information in making PSTN call routing/completion decisions, col 3 lines 50-57, e.g., The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported) by the following logic: if the looking up result is that there is no record of user to be looked up, for a node that is at the highest layer, determining that the user does not exist; for a

node that is not at the highest layer, continuing an inquiry (col 19 lines 37-49, e.g., Pershan:In the FIG. 6 example a calling party 106 whose number was ported from the PSTN to the VOIP domain originates a call from the VOIP network 104. The exemplary call is directed to a called party 108 located in the PSTN 102. As discussed above, from a billing perspective, it may be desirable to have the call billed as if it originated from the Centrex SSP 120 used to service the originating (calling party) telephone number before it was ported to the VOIP network 104. In this manner, changes in customer billing procedures as perceived by the customer, which may be important for business clients, can be minimized despite a telephone number being ported to the VOIP network), when the operation type is addition, for the user node in record being a soft switch control device, obtaining the user route; for the user node being the route service device, continuing an inquiry to the user node, or returning the user node to the inquiry node as a next jump inquiry node, so as to instruct the inquiry node to perform route inquiry with the next jump inquiry node (col 19 lines 37-49, e.g., In the FIG. 6 example a calling party 106 whose number was ported from the PSTN to the VOIP domain originates a call from the VOIP network 104. The exemplary call is directed to a called party 108 located in the PSTN 102. As discussed above, from a billing perspective, it may be desirable to have the call billed as if it originated from the Centrex SSP 120 used to service the originating (calling party) telephone number before it was ported to the VOIP network 104. In this manner, changes in customer billing procedures as perceived by the customer, which may be important for business clients, can be minimized despite a telephone number being ported to the VOIP network). Elliott et al

discloses the route service device of, wherein the operation types of the route record have three kinds: addition, move-out and account-cancel ([0035] e.g., Verification can result in the need to enforce a restriction, such as a class of service (COS) restriction (COSR). In this example, the soft switch site can verify that the account code is valid, but that it requires that an intrastate COSR should be enforced. This means that the call is required to be an intrastate call to be valid. The class of service restriction logic can be performed within the soft switch site using, for example, pre-loaded local access and transport areas (LATAs) and state tables. The soft switch would then allow the call to proceed if the class of service requested matches the authorized class of service. For example, if the LATA and state tables show that the LATA of the originating party and the LATA of the terminating party are in the same state, then the call can be allowed to proceed), or returning father node to the inquiry node as a next jump inquiry node, so as to instruct the inquiry node to perform route inquiry with the next jump inquiry node; if the looking up result is that there is record of user to be looked up in the looking up result, discerning the operation type in the record again ([0881] e.g., Soft switch 418 communicates 538 with SS7 GW proxy 424 accepting signaling messages from SS7 gateways 208. Soft switch 418 communicates 540 with SS7 GW proxy 424 sending signaling messages to SS7 gateway 208. In sending signaling messages, soft switch 204 uses 542 command and control registration of the soft switch 204 with SS7 gateway 208); when the operation type is move- out, for a node that is at the highest layer, determining that the user does not exist, for a node that is not at the highest layer, continuing an inquiry to its father node, or returning the father node to the inquiry node

as a next jump inquiry node, so as to instruct the inquiry node to perform the route inquiry with the next jump inquiry node; and when the operation type is account-cancel ([0035] e.g., Verification can result in the need to enforce a restriction, such as a class of service (COS) restriction (COSR). In this example, the soft switch site can verify that the account code is valid, but that it requires that an intrastate COSR should be enforced. This means that the call is required to be an intrastate call to be valid. The class of service restriction logic can be performed within the soft switch site using, for example, pre-loaded local access and transport areas (LATAs) and state tables. The soft switch would then allow the call to proceed if the class of service requested matches the authorized class of service. For example, if the LATA and state tables show that the LATA of the originating party and the LATA of the terminating party are in the same state, then the call can be allowed to proceed) determining that the user does not exist.

Response to Arguments

6. Applicant's arguments filed 06/08/2010 have been fully considered but they are not persuasive.

7. On page 13 of the applicants' response, applicants contend that Pershan does not teach or suggest implementing call routing in a next generation network. Elliott also fails to teach or suggest the above feature of claim 18 of the present invention.

8. The examiner respectfully disagrees with applicant's arguments, because Elliott et al. discloses a next generation network ([0684]).

9. In the present application, Applicants also argue, on page 13 of the remarks, that Pershan does not teach or suggest that "the route service devices and the soft switch control devices are networked in a layered way", as recited in claim 18.

10. The examiner respectfully disagrees with Applicants' argument because Pershan discloses the route service devices and the soft switch control devices are networked in a layered way (Fig. 1 element 104).

11. In the present application, Applicants also argue, on page 13-14 of the remarks that Pershan does not teach or suggest "when a route of a user changing, a soft switch control device that the user moves to or moves out of reporting a changed route information related to the user". Elliott also falls to teach or suggest the above features of claim 18 of the present invention.

12. The examiner respectfully disagrees with the applicants' argument, because see the rejection of claim 18.

13. Applicants also argue on page 15, that Pershan does not teach or suggest "report node information". Eltiott also fails to teach or suggest the above feature of claim 18 of the present invention.

14. The examiner respectfully disagrees with the Applicants' argument because Pershan discloses report node information (see claim 18, for further clarification see col 10 lines 6-11).

15. Applicants argue on page 16, the applicants respectfully submit that independent claim 25 is allowable for at least similar reasons as mentioned above in claim 18.

16. The examiner respectfully disagrees with the applicant's argument, because similar rejection as discussed above with reference to claim 18; claim 25 is likewise in condition for rejection.

17. Applicants argue on page 17, the applicants respectfully submit that independent claim 27 is allowable for at least similar reasons as mentioned above in claim 18.

18. The examiner respectfully disagrees with the applicant's argument, because similar rejection as discussed above with reference to claim 18; claim 27 is likewise in condition for rejection.

19. Therefore, in view of the above reason, examiner maintains rejections.

Conclusion

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOURALI MANSOURY whose telephone number is (571)270-5671. The examiner can normally be reached on Monday-Thursday, 12:00-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on 571-272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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